



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : E21B 17/10, 10/46	A1	(11) International Publication Number: WO 99/13194 (43) International Publication Date: 18 March 1999 (18.03.99)											
<p>(21) International Application Number: PCT/US98/18310</p> <p>(22) International Filing Date: 3 September 1998 (03.09.98)</p> <p>(30) Priority Data:</p> <table border="0"> <tr> <td>08/924,935</td> <td>8 September 1997 (08.09.97)</td> <td>US</td> </tr> <tr> <td>08/925,284</td> <td>8 September 1997 (08.09.97)</td> <td>US</td> </tr> <tr> <td>09/129,302</td> <td>5 August 1998 (05.08.98)</td> <td>US</td> </tr> <tr> <td>09/139,012</td> <td>24 August 1998 (24.08.98)</td> <td>US</td> </tr> </table> <p>(71) Applicant: BAKER HUGHES INCORPORATED [US/US]; Suite 1200, 3900 Essex Lane, Houston, TX 77027 (US).</p> <p>(72) Inventors: SPAAR, John, R.; 12 Greenleaf Lane, Covington, LA 70435 (US). NORRIS, James, A.; 813 E. Spruce Mesa Way, Sandy, UT 84094 (US). BEUERSHAUSEN, Christopher, C.; 1714 Ashton Village Drive, Spring, TX 77386 (US). OHANIAN, Michael, P.; 100 Windward Passage, Slidell, LA 70458 (US). PESSIER, Rudolph, C., O.; P.O. Box 8592, The Woodlands, TX 77387 (US). ILLERHAUS, Roland; 2 Classic Oaks Place, The Woodlands, TX 77387 (US). LUND, Jeffrey, B.; 1466 East Sherman Avenue, Salt Lake City, UT 84105 (US). DOSTER, Michael, L.; 23602 Tree House Lane, Spring, TX 77373 (US). DYKSTRA, Mark, W.; 3623 Oak Lake Drive, Kingwood, TX 77339 (US).</p>	08/924,935	8 September 1997 (08.09.97)	US	08/925,284	8 September 1997 (08.09.97)	US	09/129,302	5 August 1998 (05.08.98)	US	09/139,012	24 August 1998 (24.08.98)	US	<p>(74) Agents: ROWOLD, Carl, A. et al.; Baker Hughes Incorporated, Suite 1200, 3900 Essex Lane, Houston, TX 77027 (US).</p> <p>(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GE, GH, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, UZ, VN, YU; ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report.</p>
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<p>(54) Title: GAGE PAD ARRANGEMENTS FOR ROTARY DRILL BITS</p> <p>(57) Abstract</p> <p>A rotary bit drill bit of the rock bit or drag bit type suitable for directional drilling. The bit includes a bit body from carrying cutting structure on a leading end thereof. The body carries at least one set of gage pads, above which another set of gage pads may be either longitudinally spaced or rotationally spaced, or both. Longitudinally leading edges of the gage pads may carry cutting structure for smoothing the sidewall of the borehole. Cutting structure may likewise be disposed on the trailing ends of the gage pads to provide an up-drill capability to facilitate removal of the bit from the borehole. The gage pads provide enhanced bit stability and reduced side cutting tendencies, as well as (in the case of rock bits) reducing lateral loading on the rotatable cutters and associated bearing structure and seals. The invention also has utility in bits not specifically designed for directional drilling.</p> 													